

REMARKS

This application has been reviewed in light of the final Office Action dated July 13, 2007. Claims 1-6, 8, and 10-12 would be pending, upon entry of this Amendment, with Claim 1 in independent form.

Applicants previously filed an Amendment Under 37 CFR 1.116 on September 12, 2007. That Amendment included an amendment to Claim 1's step (b) regarding "classifying each of the images individually based at least on information contained in the individual image." In response, the Examiner issued an Advisory Action that did not enter the Amendment Under 37 CFR 1.116 and stated that the proposed "at least" language in Claim 1's step (b) might introduce new matter. Without conceding the propriety of this statement, the present Amendment does not include the proposed "at least" language in Claim 1's step (b) for purposes of advancing prosecution. Other than this difference, the present Amendment is identical to the Amendment Under 37 CFR 1.116 filed on September 12, 2007.

Claim 1 has been amended to make more clear that the revised image classification is based at least upon the initial image classification. Claim 1 also has been amended to require storing the revised image classifications in a computer readable storage medium. Although this claim is not so limited, support for this amendment can be found in the specification at least at page 6, lines 8-11, which is described with reference to FIG. 1, and page 5, lines 2-9. The amendments to Claim 5 affect matters of form only, and the scope of these claims has, accordingly, not been narrowed by these amendments.

Claim 12 has been added as an alternate form of Claim 5 to provide Applicants with a more complete scope of protection. In particular, Claim 12 specifies that the pre-determined temporal context model in step (c) of Claim 1 is dependent on elapsed time between consecutive images in the sequence, such that different elapsed times between a particular pair of consecutive images produces a different revised image classification for a later-captured image of the particular pair of consecutive images. Although Claim 12 is not so limited, support for this claim can be found in the specification at least at page 12, lines 10-14 and page 14, lines 3-10. Favorable reconsideration is respectfully requested.

Claims 1-2 and 4-5 stand rejected under 35 U.S.C. §103(a) as allegedly unpatentable over “A recurrent neural network classifier for improved retrievals of a real extent of snow cover” –IEEE- vol. 39, Oct. 2001, pages 2135-2147 (Simpson) in view of U.S. Patent No. 6,606,411 (Loui). Claim 3 stands rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Simpson in view of Loui and U.S. Patent No. 6,977,679 (Tretter et al.). Claims 6, 8, 10, and 11 stand rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Simpson in view of Loui and “Integration of multimodal features for video scene classification based on HMM”, IEEE - Sept. 1999, pages 53-58 (Huang). Applicants respectfully submit that the claims are patentable over the rejecting references taken separately or in any proper combination for at least the following reasons.

Independent Claim 1 requires a method for improving scene classification of a sequence of digital images including the steps of: (a) providing a sequence of images captured in temporal succession, at least two pairs of consecutive images in the sequence of images having different elapsed times between their capture; (b) classifying each of the images individually based on information contained in the individual image to generate an initial image classification for each of the images; (c) generating a revised image classification for each image based at least on the respective initial image classification and a pre-determined temporal context model that considers at least the temporal succession of the sequence of images; and (d) storing the revised image classifications in a computer readable storage medium.

A notable feature of Claim 1 is that it requires two different classifications of each image: an initial classification for each image and a revised classification for each image. According to Claim 1, each revised classification is based at least on the respective initial image classification. Support for these features can be found in the specification at least at page 5, line 27 to page 6, line 11.

In this regard, the Office Action is understood to rely upon the Simpson article’s FFNN (Feed Forward Neural Network) to allegedly teach “an initial classification for each of ... twelve daylight scene images individually [no feedback]” and the Simpson article’s RNNCCS (Recurrent Neural Network) to allegedly teach “a revised type of classification of each of the twelve daylight

scene images sequence [with this time series dependent input using feedback].”
See page 4 of the Final Office Action.

Applicants respectfully submit that they understand the Simpson article to teach using FFNN and RNNCCS independently, and not using classifications generated from FFNN in its RNNCCS to generate revised classifications, as required by Claim 1. (Claim 1 has been amended to require, among other things, generating a revised image classification for each image based at least on the respective initial image classification.) In particular, even if the Simpson article were deemed to teach using FFNN to classify twelve daylight scene images and, then, separately using RNNCCS to generate its own classifications of the same twelve daylight scene images, Applicants respectfully submit that the Simpson article still would not teach or suggest generating revised image classifications using RNNCCS based at least on initial FFNN image classifications, as required by Claim 1. None of the other cited references are cited by the Final Office Action as teaching or suggesting the above-discussed features of Claim 1.

For at least these reasons, Claim 1 is respectfully submitted to be patentable over the cited references taken separately or in any proper combination.

The other claims in this application depend from independent Claim 1 discussed above and, therefore, also are submitted to be patentable for at least the same reasons. Since each dependent claim is deemed to define an additional aspect of the invention, individual consideration or reconsideration, as the case may be, of the patentability of each claim on its own merits is respectfully requested.

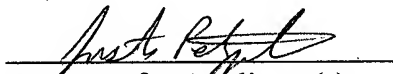
For example, Claim 5 requires that the pre-determined temporal context model in step (c) of Claim 1 is dependent on elapsed time between consecutive images in the sequence. The Office Action seems to take the position that because the Simpson article’s RNNCCS allegedly considers information from a previous image when performing classifications on a current image, that it shows a pre-determined temporal context model that is dependent on elapsed time between consecutive images. However, Applicants respectfully submit that merely evaluating information from two consecutive images in a sequence does

not show a consideration of elapsed time between the two consecutive images, as required by Claim 5.

For another example, newly added Claim 12 elaborates on what it means to be "dependent on elapsed time between consecutive images" by specifying that different elapsed times between a particular pair of consecutive images produces a different revised image classification for a later-captured image of the particular pair of consecutive images. In this regard, Applicants respectfully submit that the Simpson article does not teach or suggest that different revised image classifications caused by different elapsed times between a particular pair of consecutive images, as required by Claim 12.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and the allowance of the present application.

Respectfully submitted,



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